

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An anatomically-compatible and physiologically compatible in vivo device for improving diastolic function of either ~~the~~a left or right ventricle of ~~the~~a heart, comprising:

at least one air-impermeable sheet that is capable of being operatively connected to ~~the~~an external ventricular surface of the heart by means of one or more connecting elements, wherein said at least one sheet is curved or angled to encompass a volume of space, ~~such that a hollow space exists between said sheet and the imaginary surface containing the perimeter of said sheet,~~

such that when said air-impermeable sheet is operatively connected to ~~the~~said external ventricular surface of the heart, a closed empty space is created between ~~the~~ lower surface of said sheet and said external ventricular surface,

such that said at least one air-impermeable sheet is capable of creating a sub-atmospheric pressure within said closed empty space as a consequence of changes in the volume of said space during ~~the course of the cardiac cycle~~ of said heart, thereby exerting an outward and normally directed force on ~~the~~said external ventricular surface of the heart to which said air-impermeable sheet may be connected by means of said one or more connecting elements.

2. (Original) The device according to claim 1, wherein the air- impermeable sheet comprises a curved sheet of a biocompatible polymeric material.

3. (Original) The device according to claim 1, further comprising at least one rigidity-determining element.

4. (Original) The device according to claim 3, wherein the air-impermeable sheet is in the form of a convex shaped rigid, semi-rigid or elastic element, in which are present a plurality of laterally-disposed rigidity-determining elements.

5. (Original) The device according to claim 1, wherein said device further comprises a one-way valve inserted into the air-permeable sheet.

6. (Currently Amended) A method for improving diastolic function of ~~the~~a left and/or right ventricles of ~~the~~a heart, comprising

attaching an air-impermeable sheet to ~~the~~an external surface of the left ventricle, right ventricle or both ventricles, said air-impermeable sheet is curved or angled to encompass a volume of space.

ascertaining that air-tight sealing of ~~the~~a peripheral margin of said sheet to ~~the~~an external ventricular wall has occurred, and optionally, as required, such that an outward and normally directed force may be exerted on the external ventricular surface of the heart due to changes in the volume of said space during the course of cardiac cycle of said heart,

draining fluid and solid debris from the space formed between one surface of said sheet and the external ventricular wall through drainage means fitted in said sheet to a region located on the other side of said sheet.

7. (Original) The method according to claim 6, wherein the drainage means comprises a one-way valve connected to one or more tubes.

8. (Currently Amended) The method according to claim 6, wherein the air-impermeable sheet is attached to the external ventricular wall during the end of a diastolic period of the cardiac cycle.

9. (Currently Amended) The method according to claim 6, wherein the air-impermeable sheet is attached to the external ventricular ~~surface wall~~ by means of one or more attachment means selected from the group consisting of transmural biocompatible pins, other non-transmural pins, biocompatible needles, biocompatible spikes, biocompatible helical coil screws, biocompatible clamps, biocompatible tubes biocompatible glue and surgical sutures.

10. (Currently Amended) The method according to claim 6, wherein the air-impermeable sheet is attached to the external ventricular ~~surface wall~~ by means of a fabric patch girdle.

11. (Currently Amended) The method according to claim 6, wherein the air-impermeable sheet is constructed such that expansive pressure is the maximal value for created due to the normally-outward and normally directed force ~~expansive pressure~~ exerted on at least one part of the external ventricular wall, said expansive pressure is having a maximal value in a range of about 5 mm Hg to about 40 mm Hg.

12. (Currently Amended) The method according to claim 6, wherein ~~the ventricle to be~~
~~treated is the left ventricle of the heart is treated.~~